



The 155 Circle

Farmers Supporting Agricultural Research

Michigan Apple
Committee

Michigan Asparagus, Plum
and Onion Committees

Michigan Bean
Commission

Cherry Marketing
Institute

Corn Marketing Program
of Michigan

Michigan Floriculture
Growers Council

Michigan Nursery &
Landscape Association

Michigan Potato
Industry Commission and
Michigan Carrot Committee

Michigan Processing
Apple Growers
1-800-292-2653

Michigan Soybean
Promotion Committee

Michigan State
Horticultural Society

Michigan Sugar
Company

Michigan Turfgrass
Foundation

Michigan Vegetable
Council

Let's Celebrate!

**December 3, 2009
Number 1**

All of us in Michigan should pay tribute more often.

Like in 2010.

In 2005 we celebrated the 150th anniversary of Michigan State University's founding. More than that, we honored agricultural research.

MSU is the pioneer "land grant" college. The far-sighted leaders of 1855 grasped the need to make farming more scientific. They started a revolution.

Today farming is more than farming. It is Scientific Agriculture. It is Applied Science. Farmers convert the findings of agricultural research into practical results.

That whole movement started right here in Michigan. We should be proud. It's part of our Michigan heritage. Michigan led the way in Scientific Agriculture.

Next year--2010--marks MSU's Sesquicentennial plus 5 more years. We shouldn't wait another 20 or 45 years for the next round of honors. Agricultural research still makes Michigan great. Let's celebrate it!

1855 + 155 = A Growing Michigan

Next: Land Grant Legacy

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Standing Tall

January 19, 2010
Number 15

And then the rains came. Twice.

In the mid-1970s the dry-bean crop in Michigan was badly damaged on two occasions by excessive rainfall at harvest. The bush-type bean plants were too close to the ground to escape the effects of too much water.

Agricultural research provided the solution.

Michigan State University plant breeder Wayne Adams decided the plants should be taller and more upright. He found a natural bean plant in Central America that fit his specifications for height and erectness. He began crossing it with conventional beans.

The result was a new architecture for Michigan bean fields. Dr. Adams developed navy bean and black bean plants that stood tall and straight above the ill effects of surface water ponding. He revolutionized the industry as bean breeders throughout the Western Hemisphere followed his lead. "Standing tall" is now standard for navy and black bean plants.

Michigan is No. 1 in national production of black beans and No. 2 in navy beans. MSU has a 155-year tradition of serving agriculture since its founding in 1855. Agricultural research results in big pay-offs.

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Next: Unwelcome Visitor

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Stranded

January 21, 2010
Number 17

What if they don't come?

Food crops have historically been harvested by hand. Michigan red tart cherries were hand-picked till well after World War II.

But growers always faced the specter of a worker shortage.

Then it hit the cherry industry. A government program had brought skilled harvesters from Mexico for Michigan's cherry and apple orchards and other fruit and vegetable crops. The program shut down in 1964. Unfortunately no supply of domestic workers with the necessary skills and motivation was available.

What to do? Mechanized harvest was the only answer. Engineers in the private sector and at Michigan State University had already been researching mechanization as a contingency option. Their ingenuity developed the tree shaker. Vibrations shake the fruit loose into a canvas catching device.

The earliest models grabbed individual branches for the vibrating. Later the trunk shaker became the more efficient standard.

Mechanization research has been part of the 155-year history of MSU since its beginnings in 1855 when the focus was on improving the plow. Agricultural engineering research has a long and successful history in Michigan.

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Next: Loosening Up

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The Beal Appeal

January 28, 2010
Number 22

William J. Beal started the revolution.

In 1917 the average Michigan corn yield was only 21.5 bushels per acre, the all-time record low. But even the good years back then weren't much better. Average yields historically stumbled along in the range of 25 to 30 bushels per acre.

Corn hybrids changed the picture. The climb in Michigan's corn productivity reached the 40 mark during World War II, 50 bushels per acre after the war, 60 in the early '60s.

The climb began with Beal. He was a world-renowned botanist who spent 40 years at Michigan Agricultural College after arriving in 1870, 15 years after its 1855 founding. He created the Beal Botanical Garden that still exists on the Michigan State University campus.

In 1879 he turned his attention to making crosses between native corn varieties, drawing on the developing knowledge about plant genetics. A plaque on campus commemorates his role in laying the groundwork for hybridization and higher yields.

They reached the low 70s per acre in the '70s, an astonishing figure then. Today Michigan's average yields are twice that. Most of the research is now done by private seed companies, which promise even much higher yields not far in the future.

MSU's tradition of agricultural research reaches back to Beal and before, a total of 155 years. As consumers, we've all been the beneficiaries.

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Next: Healthy Potatoes

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Springtime Apples

February 2, 2010
Number 25

How long should an apple last?

For our ancestors back in 1855, when Michigan began the nation's first agricultural college, apples went bad fast. Storage at best was in a cellar or basement. Cool temperatures there helped a little, but fresh apples were mainly a treat just for fall and not long after.

A half century later mechanical refrigeration was coming online. The college did research into cold storages. Apples held in sealed rooms at barely above freezing lasted longer. Fairly crunchy apples were available into mid-winter.

Then after another half a century came studies into low-oxygen storages. Respiration is what makes apples go soft. A low-oxygen atmosphere retards respiration.

Michigan State University was among the leaders in the new research. Dr. David Dilley of the Department of Horticulture exhaustively studied apple responses under a multitude of variables to fine-tune the system. The perfect atmosphere of low oxygen plus precisely controlled carbon dioxide plus the right temperature yields apples eight and nine months after harvest nearly as firm-fleshed as right off the tree.

Michigan's controlled-atmosphere storages bring us the previous fall's harvest into May and June, even longer if necessary. This year you can expect high-quality apples from the 2009 bumper crop into August.

Just another triumph in Michigan's 155-year record of agricultural research.

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Next: The Beet Goes On

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The Beet Goes On

February 3, 2010
Number 26

The word from out west was that there was big money in sugar beets. How about here in Michigan?

In 1890 Professor Robert C. Kedzie journeyed to Grand Island, Nebr., for an investigation. He was a chemistry professor at Michigan Agricultural College who also headed its agricultural research.

He returned with a mixed report. Many Nebraska growers went broke with the crop. Others prospered. He perceived enough potential to justify trials in Michigan. The key was to find the right soils and climate.

More than 300 farmers around the state participated in the trials, planting more than 1,700 pounds of sugar-beet seed. Kedzie, one of early luminaries of the college following its 1855 founding, analyzed the results for productivity and quality.

This was the start. Today Michigan has a solid beet-sugar industry based on 136,000 acres of production. The Thumb and Saginaw Valley turned out to be ideally suited for the crop, which now yields about \$125 million annually to the growers and generates multimillions more through the processing and marketing to end consumers.

Through its 155-year history Michigan State University has relied on grower cooperation to advance agricultural research. Plots for crop trials are willingly provided by producers to aid their fellow farmers as well as the researchers and the entire state in achieving a prosperous Michigan agriculture.

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Next: Plotting Potatoes

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Plotting Potatoes

February 4, 2010
Number 27

Titus Bronson, the founder of Kalamazoo in 1829, had the nickname "Potato" Bronson for handing out so many potatoes among the pioneer settlers. His favorite variety was the long-forgotten Neshan-nock.

Michigan potato production was advancing rapidly four decades later. Michigan Agricultural College was founded in 1855, and within a dozen years Professor Albert N. Prentiss set out plots of 36 different potato varieties. He tested them for maturation rates, productivity and quality. He displayed his results at a meeting of the Michigan State Agricultural Society in Detroit.

Variety trials have been a central component of the research that has driven Michigan to a thriving agriculture. Payoffs continue to this day. Potatoes are a good example.

Growers in 1990 came upon a neglected variety called Snowden that other regions ignored. Trials were set up at Michigan State University's Montcalm Research Farm and in plots provided by cooperating growers around the state. It looked like a winner but was difficult to grow. MSU potato specialist Dr. Dick Chase helped growers on their learning curve. Michigan became the master of Snowden, jumped ahead of its competitors and has become a leading supplier to the processing sector.

Growers' receipts have surged to more than \$156 million a year, helped by a testing tradition going back nearly 155 years.

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Next: Lyon's Den

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